Dynamic Sharing in Mobile Bands Would Create More Problems than It Would Solve

Protect and Promote 4G Mobile Broadband Deployment

- As PISC noted in its comments, “frequency bands that are intensively and efficiently in use – such as the bands used for CMRS – are the least suitable candidates for spectrum band sharing.”
- *All* mobile bands suitable for 4G deployment share this characteristic, including the 2.5 BRS/EBS and AWS bands.
- The FCC should make clear that consideration of dynamic spectrum sharing would not apply to *any* mobile bands in which 4G networks are or will be deployed.

FCC Action Is Promoting 4G Mobile Broadband Deployment in the 2.5 GHz Band

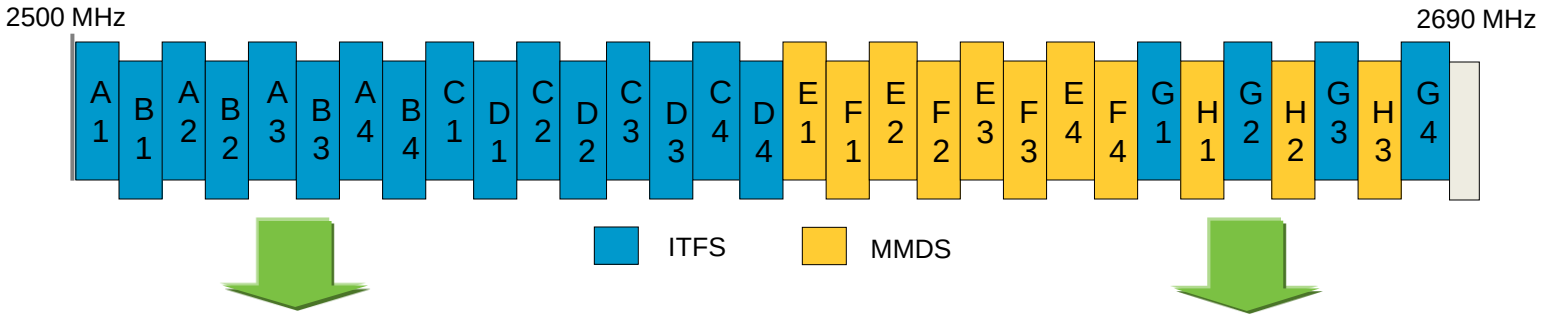
- In 2006, the FCC reconfigured the 2.5 GHz band to promote the deployment of 4G mobile broadband and established an aggressive build out deadline of May 1, 2011, only four years after the establishment of final service rules.
- The result is widespread and ongoing 4G mobile broadband deployment in the band.
- For example, CLEAR 4G service in the 2.5 GHz band has launched in 71 markets across the U.S. covering nearly 120 million people and serves as the 4G platform for Sprint, Comcast and Time Warner Cable.

EBS Is Critical to 4G Mobile Broadband Deployment in the Entire 2.5 GHz Band

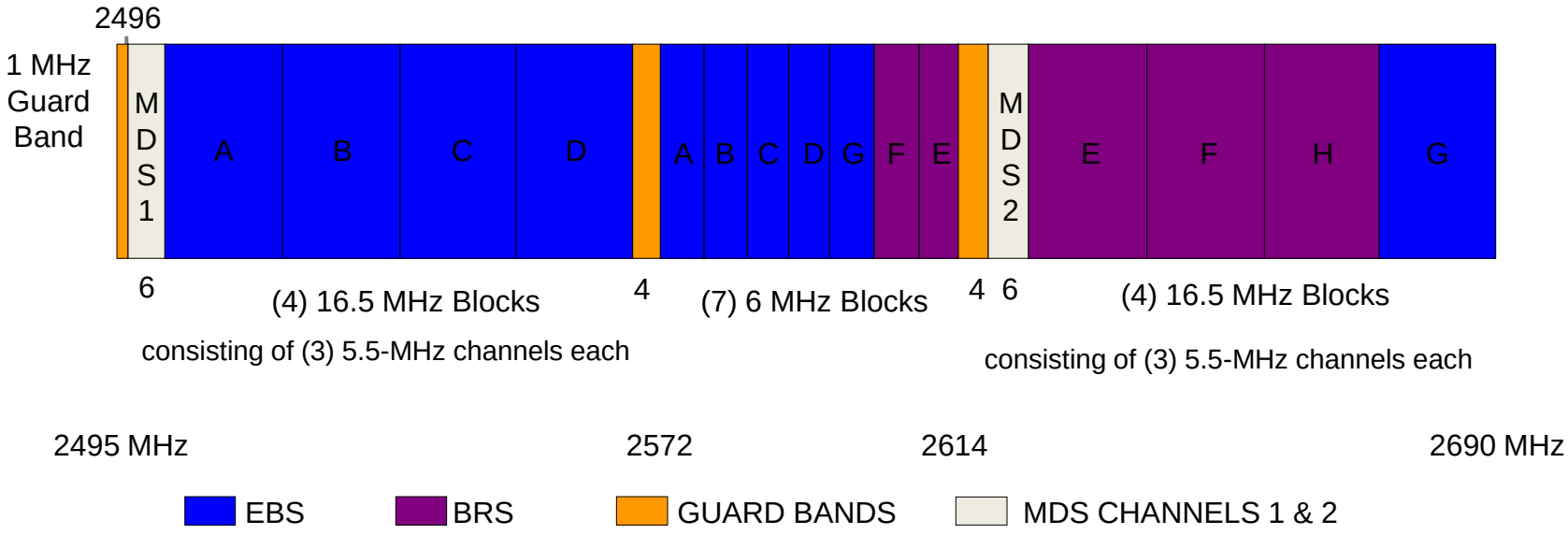
- The band has a long history of partnerships between educational and commercial licensees because the licensing rules permit EBS licensees to lease a portion of their licensed spectrum to commercial operators.
- Despite the economic downturn, BRS/EBS licensees have invested *billions of dollars* in network deployment in the last two years.
- EBS spectrum constitutes approximately ½ of the spectrum used in commercial 4G mobile deployments.

2.5GHz Band in the U.S.

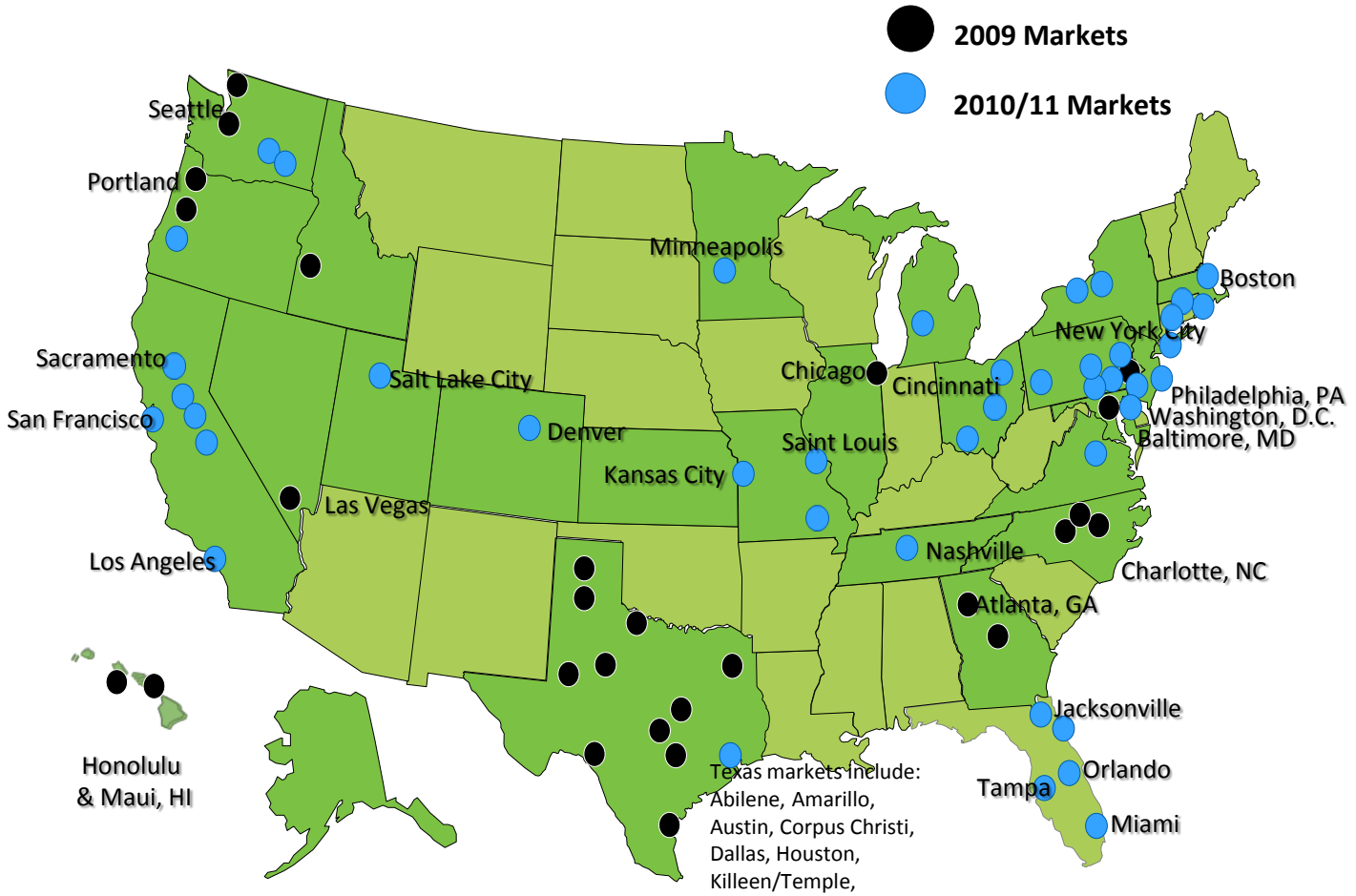
MMDS / ITFS Channel Bands Prior to Adoption of New Rules (1/05)



EBS / BRS Channel Bands



Clearwire 4G – Commercial 2.5GHz/EBS Deployment



- **71 Tier 1 Markets**
- **126MM POPs**
- **6.15M customers**

Source: Clearwire company filings

2.5 GHz Is Part of a Global Ecosystem for 4G Mobile Broadband Deployments

- ITU has defined 2.5 GHz as critical band for IMT-Advanced (4G)
- WiMAX Forum defines 2496-2696 GHz as band class 3.A, which is the primary global band for most WiMAX deployments in commercially licensed spectrum.
- In accordance with ITU recommendations, 3GPP standards define three LTE bands for commercially licensed 2496-2690 MHz: Bands 7, 38, and 41.
- GSMA recommends the 2500-2700 MHz licensed band as vital for the growth of LTE to support Global Mobile Broadband.

There Is No Evidence Supporting Reallocation of 2.5 GHz or AWS Spectrum

- Microsoft asserts that the 2.5 GHz band should be reallocated for shared use because it "has been underutilized" and abuts the existing unlicensed allocation in the 2.4 GHz band. Other commenters suggest that the AWS band is underutilized and could be used for dynamic sharing. No evidence is submitted to support these claims.
  - Historic underutilization of the 2.5 GHz and band was precisely the reason the FCC reconfigured the band to support 4G mobile broadband. AWS was also reconfigured to support 4G mobile broadband.
  - Significant investment and network deployment quickly flowed from these rebanding efforts.
  - Another radical change to these bands would adversely affect this investment and deployment.
- While dynamic sharing is a laudable goal, it should not be pursued in bands such as 2.5 GHz where greenfield, 4G mobile broadband networks are being deployed.

Dynamic Sharing in Mobile Bands Would Create More Problems than It Would Solve

- Sharing spectrum with incumbent users on an unlicensed basis presents difficult interference issues that would be just as challenging to resolve as clearing licensed bands for flexible use.
- Sharing is already happening in licensed mobile wireless through the use of wholesale, MVNO and M2M relationships:
  - Clearwire has MVNO relationships with Sprint, Comcast and Time Warner Cable that provide a platform for multiple competitors to enter a market.
- Sharing would actually decrease spectral efficiency in licensed mobile bands and harm investment and consumer expectations.